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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

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MAR - 4 1996

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)

Amendment of the Commission's)
Rules Regarding the 37.0-38.6 GHz)
and 38.6-40.0 GHz Bands)

) ET Docket No. 95-183
) RM-8553

Implementation of Section 309(j))
of the Communications Act --)
Competitive Bidding, 37.0-38.6 GHz)
and 38.6-40.0 GHz)

) PP Docket No. 93-253

To: The Commission

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COMMENTS OF COMMCO, L.L.C.

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SUMMARY

Commco, L.L.C. ("Commco"), by its attorneys and pursuant to Section 1.415 of the Commission's Rules, 47 C.F.R. §1.415, hereby submits comments in response to the Commission's *Notice of Proposed Rulemaking and Order*, adopted December 15, 1995 in the above-captioned proceeding (hereinafter "*NPRM*").^{1/}

In general, Commco supports many of the Commission's tentative conclusions in the *NPRM*. Most particularly, Commco applauds the Commission's conclusion that the public interest will be served by making additional spectrum in the 37.0 - 38.6 GHz (hereinafter "37 GHz") frequency band available for licensing. *NPRM* at ¶ 13. However, uses for this spectrum are still being defined by the marketplace and Commco urges the Commission to adopt rules that provide sufficient flexibility to allow carriers to respond to the evolving market.

Commco further urges the Commission to adopt rules in this proceeding that will govern the licensing of both the 37 and 38.6 -40 GHz (hereinafter "39 GHz") bands in an even-handed and impartial manner. Moreover, the Commission must adopt rules that treat incumbent 39 GHz licensees consistently with those that receive both 37 and 39 GHz spectrum at auction. An even-handed approach will allow a competitive equipment market to develop, as well as enable these bands to be made available for a wider array of services.

^{1/} By Order, released February 9, 1996, DA 96-144, the Commission extended the date for filing comments to March 4, 1996.

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Commco, L.L.C. ("Commco"), by its attorneys and pursuant to Section 1.415 of the Commission's Rules, 47 C.F.R. §1.415, hereby submits comments in response to the Commission's *Notice of Proposed Rulemaking and Order*, adopted December 15, 1995 in the above-captioned proceeding (hereinafter "*NPRM*").^{2/}

I. INTRODUCTION

Commco is a South Dakota-based limited liability company which seeks to apply for authorizations in the 38.6 - 40 GHz ("39" GHz) band in order to provide wireless fiber or "last mile" services to customers on a nationwide basis. Commco's principals have years of experience in constructing, operating and managing cellular telephone and other commercial mobile radio systems and they continue to pursue various wireless opportunities domestically and

^{2/} By Order, released February 9, 1996, DA 96-144, the Commission extended the date for filing comments to March 4, 1996.

abroad.^{3/} Among potential customers who have expressed strong interest in Commco's wireless fiber services are members of Fortune 500 companies who require the availability of such services on a nationwide basis.

Thus far, Commco has obtained approximately sixty licenses, and it continues to prosecute more than one hundred applications for authority to establish new facilities necessary to develop its nationwide network. To date, Commco has spent approximately \$1.4 million in researching and developing this broadband service opportunity, preparing and filing applications, and working with Economic and Management Consultants International, Inc. ("EMCI"). Accordingly, the outcome of this proceeding is critically important to Commco.^{4/}

In general, Commco supports many of the Commission's tentative conclusions in the *NPRM*. Most particularly, Commco applauds the Commission's conclusion that the public interest will be served by making additional spectrum in the 37.0 - 38.6 GHz (hereinafter "37 GHz") frequency band available for licensing. *NPRM* at ¶ 13. However, the *NPRM* focuses primarily on the backhaul and backbone needs of personal communications service ("PCS") and other commercial mobile radio service ("CMRS") providers.^{5/} Uses for this spectrum are still being defined by the marketplace and Commco urges the Commission to adopt rules that provide sufficient flexibility to allow carriers to respond to the evolving market.

^{3/} Since 1980 Commco's principals have been involved in more than twenty such projects both in the United States and abroad.

^{4/} On January 16, 1996, Commco, along with other 39 GHz applicants, filed an Emergency Request for Stay requesting that the Commission immediately lift its interim freeze on the processing of mutually exclusive applications, including amendments thereto, to establish new facilities in the 39 GHz frequency band. The stay was requested pending action on a related Petition for Reconsideration filed by the same parties in connection with the freeze.

^{5/} NPRM at ¶13.

Commco further urges the Commission to adopt rules in this proceeding that will govern the licensing of both the 37 and 39 GHz bands in an even-handed and impartial manner. Moreover, the Commission must adopt rules that treat incumbent 39 GHz licensees consistently with those that receive both 37 and 39 GHz spectrum at auction. This approach is essential to the development of a robust wireless fiber market. In particular, an even-handed approach will allow a competitive equipment market to develop, as well as enable these bands to be made available for a wider array of services. Uses for this spectrum, as well as equipment specifications, are still being defined. Therefore, Commco urges the Commission to adopt rules that provide flexibility and encourage technological growth and competition for operations in both the 37 and 39 GHz bands.

II. DISCUSSION

A. Processing of Pending 39 GHz Applications

For the reasons detailed in Commco's Petition for Reconsideration and Emergency Request for Stay, Commco submits that the Commission must continue processing 39 GHz applications that are pending and mutually exclusive, affording pending applicants ninety days in which to resolve mutual exclusivity through technical and other negotiated settlements. During this period of time, applicants should be permitted access to the Commission's database to determine where mutual exclusivity exists. This access could be made available through the Internet. Affording pending applicants the ability to resolve mutual exclusivity is consistent with the Commission's rules, as well as Congress' mandates set forth in Section 309(j)(6)(E) of the Communications Act of 1934, as amended (the "Act"). Any attempt to inhibit such voluntary conflict resolution efforts would be patently inconsistent with the requirements of Sections

309(j)(6)(E) and 309(j)(7)(B) of the Act.^{6/} Finally, upon completion of this ninety day period, Commco urges the Commission to reduce any pending multi-channel requests for 39 GHz spectrum to a single channel.

B. Construction/Build-Out Requirements for 39 GHz Licensees

The Commission seeks comment on whether it should adopt build-out and construction requirements for existing 39 GHz licensees. *NPRM* at ¶ 98. In order to accommodate incumbent 39 GHz operations, the Commission is proposing to adopt "transition" rules whereby licensees of rectangular service areas would be given 18 months from the adoption of a Report and Order in this proceeding to file with the Commission a certification that they have constructed a minimum average of four permanently installed and operating links per hundred square kilometers of their licensed service area for each licensed channel block.^{7/} *NPRM* at ¶ 105. This "transition" proposal is unsupported by analysis, and its arbitrariness is underscored by the fact that the Commission did not specify any build-out requirement in connection with the 37 GHz band, or for 39 GHz licensees that receive their spectrum at auction. *NPRM* at

^{6/} See, e.g., Letter from Senators Larry Pressler and Thomas Daschle, dated February 9, 1996, to FCC Chairman Reed Hundt (Appendix 1).

^{7/} The Commission must clarify its definition of a "link" for purposes of its proposed construction requirement. In particular, it is not clear from the text of the *NPRM* whether a carrier would be given credit for two links if it had the capacity to carry communications between two points in two different directions. If the Commission does, in fact, adopt a uniform quantitative build-out requirement despite the fledgling character of this industry, then Commco urges the Commission to adopt a flexible standard that would allow credit for both one-way and two-way types of communications. The Commission should give carriers credit for two "links" where that carrier has installed the equivalent T-1 interconnection capacity. This is because a T-1 interconnection has the capacity to speak in two different directions. Moreover, any capacity higher than a T-1 that is installed should be given "link" credit in integrals of two. If a carrier installs a T-3 capacity, for example, it should be given credit for six links.

¶ 98.

Commco strongly opposes adoption of this "transition" regime for three reasons. First, this proposal is a veiled attempt by the Commission to augment the amount of spectrum it will have available to auction. In effect, the Commission is proposing to adopt an arbitrary build-out schedule -- without regard to population density or other market characteristics -- which will inevitably result in licensees forfeiting spectrum for which they have been granted licenses if they fail to construct and place in operation a communications link for every 10 square miles of area. *NPRM* at ¶ 105. Adoption of the Commission's proposal as a prelude to spectrum auctions will have an especially detrimental effect on rural areas, which is antithetical to Congress' policy goals for rural areas. In particular, pursuant to Section 309(j)(3)(A) of the Act, the Commission must ensure "the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas" 47 U.S.C. §309(j)(3)(A).

Second, this proposal will have the effect of placing incumbent 39 GHz licensees at a competitive disadvantage to those 37 and 39 GHz licensees that receive spectrum at auction. If the Commission adopts its proposed build-out rules, it will be defining the manner in which 39 GHz networks are to be built-out, before the uses for this spectrum, and the specifications for equipment, have been fully developed. Therefore, while incumbent 39 GHz systems will be required to operate in an artificially hamstrung manner now, those that receive spectrum at auction will have the flexibility to design and build systems using this spectrum in any number of unique and innovative ways.

Third, this "transition" regime will force 39 GHz operators to build out their systems to

compete with artificially imposed benchmarks rather than actual evolving demand at specific locations. The 39 GHz frequency band is only effectively utilized when built "on demand." If a licensee were to build a network in compliance with the Commission's proposed "transition" rules, it would be required to build a "backbone network" in the traditional sense of microwave radio networks. However, due to the short distance transmission characteristics of the band, 39 GHz does not lend itself to implementing a "backbone network." Rather, using today's available products, 39 GHz is best suited for short-haul point-to-point links.

For example, assuming a particular license area had a 50 mile radius about a fixed point (7,854 square miles)^{8/}, then the number of paths required to meet the proposed FCC requirement of approximately 1 link per 10 square miles would be 785 links to preserve a single-channel license. This construction would have to be undertaken in every market, regardless of population density, market demand, or the type of service the carrier intended to provide. Due to the short distance within which this frequency band can operate in a reliable fashion, an incumbent licensee would have to build these links in a manner that would provide "backbone" capability in order to be ready and available to support "potential" traffic of prospective customers where ever they may be located within the licensed area. A "backbone network" that has this "ready and available" capacity would utilize microwave radios and transmission capabilities of at least 45 Mbps (DS-3 capacity). Current technological development on this frequency band requires that a 45 Mbps radio would occupy 40 MHz of spectrum. In order to allow for the required "guardband" protection, the "centering" of this 40 MHz radio on a 50

^{8/} This size of this hypothetical service area has been chosen to comply with the Commission's Public Notice, Mimeo No. 44787, released September 16, 1994.

MHz channel would allow for two 5 MHz guardbands. If these radios were deployed throughout the hypothetical 7,854 square mile service area, and assuming the licensee were licensed for a single 50 MHz channel, the approximate cost to build a network of this size and nature would be over \$40 million. These capital expenditures do not even include the cost of constructing the additional links required to interconnect customer premises to the backbone. Moreover, this same monetary investment would have to be made in every market regardless of the population density or market demand.

Commco believes that, based upon a reasonably projected revenue stream from 39 GHz operations, even in a service area with one million people, a \$40 million dollars capital requirement makes absolutely no business sense. Commco could not even hope to recoup its initial \$40 million capital investment, let alone make a profit, for at least ten years.

In effect, building a "backbone network" becomes a speculative activity, i.e. finding customers that want only to connect to the carriers existing "backbone network," and not those that want to connect from one customer premise to another. The "target" market for operators in this frequency band are:

1. Campuses requiring interconnection of buildings.
2. Customers requiring high capacity short-haul links.
3. Competitive Access Providers requiring "wireless" augmentation to their networks.
4. Cellular operators requiring interconnection of microcells.
5. PCS operators requiring interconnection of their cells sites.

All of these applications are built on an "as needed" basis and the interconnectivity requirements of these applications follow suit. Competition for these "target" markets will be from 37-39

GHz licensees, existing wireless service providers seeking incremental revenue opportunities, existing competitive access providers, and future competitive access providers that will be introduced into this marketplace as a result of the new telecommunications legislation. In order to compete for these "target" market segments, however, 39 GHz licensees must be afforded enough flexibility to design and build-out their systems on an "as needed" basis. If the Commission's proposed build-out rules are adopted, 39 GHz licensees (and certainly those subject to the proposed transition rules) will be removed from the marketplace as viable competitors.

Rather than adopting its proposed build-out rules, Commco urges the Commission to adopt a more flexible approach as it has done for spectrum expected to be used for other niche services, such as PCS blocks D, E and F. See, 47 C.F.R. §24.203(b) 1995. In particular, Commco supports a standard whereby licensees would be required to make a showing of "substantial" service in their licensed service area at a five-year benchmark. This approach will ensure that carriers are building-out their markets, and that actual customer demand is being met, thereby creating stability in this marketplace.

C. Competitive Bidding

Commco supports the Commission's decision to license previously unapplied for spectrum in the 37 and 39 GHz bands through competitive bidding. *NPRM* at ¶ 104. Moreover, Commco believes that the adoption of the PCS auction model -- simultaneous multiple round auctions -- is a reasonable, workable approach. However, Commco does not agree with the Commission's tentative decision to auction spectrum in the 37 GHz band, and unlicensed 39 GHz spectrum together. *NPRM* at ¶ 104. Commco urges the Commission to postpone the 39

GHz auctions until the Commission has completed the processing of pending 39 GHz applications. This will ensure that incumbent 39 GHz licensees and those that receive the spectrum at auction are competing on a level playing field.

Commco supports the Commission's decision to license 37 and 39 GHz frequencies on the basis of geographic areas, rather than on an individual point-to-point basis. *NPRM* at ¶ 21. Commco supports the use of Basic Trading Areas ("BTAs") as the logical license area for 37 and 39 GHz services. BTAs accommodate PCS service providers since all PCS licenses consist of one or more BTAs. Moreover, there are enough BTAs to create meaningful licensing opportunities for small businesses and, the use of simultaneous multiple round auctions will enable those requiring larger areas to aggregate BTAs or Metropolitan Trading Areas ("MTAs") into regional or nationwide territories if desired.

D. Channeling Plan and Technical Rules

In general, Commco urges the Commission to adopt a channeling plan and technical rules that are consistent for both 37 and 39 GHz. This approach is essential to the development of a hardy point-to-point microwave market. In particular, consistency will allow a competitive equipment market to develop, as well as to enable these bands to be made available for a wider array of services (*i.e.*, point-to-multipoint). If equipment manufacturers are faced with common technical standards, and sufficient spectrum in the 37 and 39 GHz bands, they will be encouraged to devote substantial resources to developing this market segment.

Commco strongly endorses the Commission's tentative decision to adopt only those technical standards required to minimize interference between licensees. *NPRM* at ¶ 115. This approach is consistent with the recent adoption of technical rules for PCS and the Specialized

Mobile Radio Service, where the Commission concluded that it should not seek to micromanage the spectrum.^{9/} Certainly, the adoption of minimal technical rules will encourage technological innovation in these bands. Demand for services which are based on new and rapidly evolving technologies will increase incrementally; therefore, the rules adopted in this proceeding should be as flexible as possible to allow for growth.

1. Transmitter Power:

Commco supports the Commission's proposal to abolish the limitation on maximum transmitter power and to increase the maximum EIRP to +55dBW. *NPRM* at ¶ 115. This higher EIRP will allow for increased path reliability as well as longer paths, and will allow for innovation in developing new services that may not fit a traditional point-to-point configuration. In addition, system designers will have more flexibility when developing an area where physical site restrictions may require the use of innovative antenna or waveguide designs to overcome operational obstacles, which otherwise would require the expenditure of significant expenses to maintain the proposed paths.

2. Frequency Tolerance:

Commco agrees with the Commission's proposal to adopt a 0.001 % frequency tolerance for equipment operating in either the 37 GHz or 39 GHz bands. *Id.* However, Commco urges the Commission to grandfather any *equipment*, not just the microwave paths, installed before that

^{9/} See Amendment of the Commission's Rules to Establish New Personal Communications Services, GEN Docket No. 90-314, Memorandum Opinion and Order, 9 FCC Rcd 4957 (1994); see also Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, First Report and Order, Eight Report and Order, and Second Further Notice of Proposed Rulemaking, PR Docket No. 93-144, released December 15, 1995.

date with the lower, 0.03% tolerance level. *NPRM* at ¶ 119. To do so will allow licensees to continue to purchase and install competitively priced equipment with the current 0.03% tolerance, while not bringing the industry and system deployment to a standstill waiting for equipment with the new tolerance levels to arrive from vendors. Moreover, carriers that invest in equipment today will still be able to use that equipment once the higher frequency tolerance level is put into place. This approach will help limit the obsolescence of equipment installed prior to January 1, 1998, which is beneficial for both licensees and their customers.

3. Efficiency:

While Commco supports the Commission's attempt to assure spectrum efficiency, *NPRM* at ¶ 105, Commco believes that this issue should be defined by a competitive environment. Currently, most equipment vendors are supplying microwave radios that meet the proposed 1Bps/Hz requirement. However, there are microwave radios which are currently being manufactured, and some which have already been deployed, which do not meet this criteria. Commco believes that competition among microwave radio equipment suppliers, as well as 37 and 39 GHz licensees, will spur the innovation necessary to maintain spectral efficiency within this band. At a minimum, the FCC should not impose such a requirement on incumbent 39 GHz licensees.

4. License Term/Renewal Expectancy

Commco agrees with the Commission's proposal to grant licenses for a ten-year term with a renewal expectancy. *NPRM* at ¶ 97. As stated above, both 37 and 39 GHz systems are in the early stages of development. Therefore, carriers will be required to expend considerable time and money to develop and deploy a viable system. During that time, the systems will be

constantly evolving to meet changing customer needs. Thus, a ten-year license term is necessary to permit this service to fully evolve. However, the Commission should clarify that the same renewal expectancy applies to incumbent licensees as to those that receive licenses at auction.

III. CONCLUSION

For the reasons discussed above, Commco urges the Commission to adopt rules in this proceeding that will allow the continuing growth and development of services in the 37 and 39 GHz frequency bands.

Respectfully submitted,

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Its Attorneys

APPENDIX 1

United States Senate

WASHINGTON, D.C. 20510

February 9, 1996

The Honorable Reed E. Hundt
Chairman
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Dear Chairman Hundt:

We continue to support your efforts and those of the entire Federal Communications Commission ("Commission" or "FCC") to carry out the intent of Congress that the Commission grant mutually exclusive applications for authorizations in certain radio services on the basis of competitive bidding, as authorized by the Omnibus Budget Reconciliation Act of 1993 ("1993 Budget Act" or "'93 Act").

In granting authority to the FCC to award such authorizations by auction, Congress expressly limited that authority to situations involving mutually exclusive applications. Moreover, Section 117 of the 1993 Budget Act, now codified at 47 U.S.C., section 309(j)(6)(B), directed the Commission to make every effort to avoid mutually exclusive application situations by use, among other things, of engineering solutions such as frequency coordination and amendments to eliminate mutually exclusive situations. The opportunity to generate revenues was not to be used as justification for ignoring this direction.

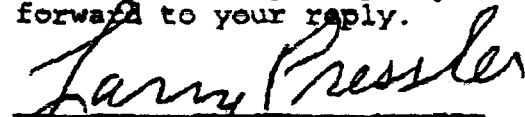
While some segments of the industry have expressed concern about Commission action regarding allocation of specific portions of the electromagnetic spectrum, our concern is with the larger issue of Commission implementation of Congressionally-imposed responsibilities under the '93 Act. We are particularly interested in the Commission's treatment of its auction authority under the Notice of Proposed Rulemaking and Order, FCC 95-500, (the "Order") covering the proposed revision of rules governing processing of 39 GHz applications.

We wholly support spectrum auctions, where reasonable, appropriate and truly representative of Congressional intent. By virtue of either completing the application process or amending already submitted applications to eliminate mutual exclusivity concerns, applicants have in essence established a fairly reasonable expectation that they would not be subjected to the competitive bidding process. In considering the public interest

to generate revenues under the '93 Act, Congress determined that the promotion of more competitive services for the public and more efficient use of spectrum were of paramount importance when compared to allocation by competitive bidding.

It therefore seems anomalous to the clearly expressed intent of Congress within the Act that applicants who have completed the application process would subsequently be exposed to having to compete for that spectrum in auctions. Clarification of the Commission's reasoning and interpretation of it's auction authority under the 1993 Budget Act would be appreciated.

Thank you for your prompt attention in this matter. We look forward to your reply.


Larry Pressler


Thomas Paschle